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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,155	05/04/2006	Harry Vig	037-03US1	8796
53590	7590	04/01/2009		
OPTICUS IP LAW, PLLC			EXAMINER	
7791 ALISTER MACKENZIE DRIVE			VAUGHAN, MICHAEL R	
SARASOTA, FL 34240				
			ART UNIT	PAPER NUMBER
			2431	
			MAIL DATE	DELIVERY MODE
			04/01/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/578,155

Applicant(s)

VIG ET AL.

Examiner

MICHAEL R. VAUGHAN

Art Unit

2431

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-18 and 20 is/are rejected.
- 7) ☒ Claim(s) 3, 12 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

The instant application having Application No. 10/578155 is presented for examination by the examiner. Claims 1, 3, 6, 7, 11, 13, and 14 have been amended. Claim 1 also has an amendment which is not correctly identified. The word "of" in the last limitation was added but it is not underlined. Claims 15-20 have been added. Claim 13 has been correctly renamed to claim 13 because there were two claim 12s. Subsequently claim 14 has been renamed from 13 to reflect the problem stemming from having two claim 12s.

Response to Amendment

Drawings

The newly submitted drawings are accepted.

Claim Objections

Claims 3, 12, and 19 are objected to because of the following informalities:

As per claim 3, this claim does not further narrow the system of parent claim 1 by adding that the method is embodied in computer readable medium. There is no need to widen the scope of the method to encompass computer readable medium. Claim 6 precisely covers this scope.

As per claim 12, the detector should be "the single-photon detector". Claim 19 is objected for the same reason as claim 12.

Terminal Disclaimer

The terminal disclaimer filed on 1/26/09 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on Application Number 10/589419 has been reviewed and is accepted. The terminal disclaimer has been recorded. As such, the previous Double Patenting rejection has been withdrawn.

Claim Rejections - 35 USC § 101

The current amended overcomes the previous 35 USC 101 rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11, 13-18, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 1, a maximum number of photon counts are defined. Then there is a citation of "the photon count at a maximum value". The latter citation would be construed as not referring back to the maximum number of photon counts, particularly because the photon count is singular. Claims 2-5, 15 are rejected for being dependent claims.

As per claim 5, it is unclear whether the range of pulse widths refers back to the range of pulse widths of claim 4. In claim 4, the range is defined as $RW1$. In claim 5, the range is defined as $RW2 < RW1$. There needs to be a way to differentiate the two ranges and how they are recited. Calling them both a range of pulse widths is not sufficient.

As per claim 6, a second select range infers the existence of a first select range. However, only a first range is recited. Also, a maximum number of photon counts are defined. Then there is a citation of "the photon count at a maximum value". The latter citation would be construed as not referring back to the maximum number of photon counts, particularly because the photon count is singular. Claims 16 and 17 are rejected for being dependent claims.

As per claim 7, the detector is undefined. Also the arrival time has an antecedent problem because T is defined as detector gate pulse arrival times. It is also not clear what exactly T is. Is it a range of detector gate pulse arrival times or detector gate pulse arrival times? Either way it is then referred to in singular form. The maximum number of photon counts is undefined. It appears to be missing "a **first** maximum". Claims 8-10 and 18 are rejected for being dependent claims.

As per claim 8, the detector gate dither lacks antecedent basis. It appears to be referring to the first detector gate dither.

As per claim 9, the detector gate dither which is terminated appears to be referring to the first detector gate dither which is already defined.

As per claim 11, the controller is undefined throughout the claim. Also the arrival time has an antecedent problem because T is defined as detector gate pulse arrival times. It is also not clear what exactly T is. Is it a range of detector gate pulse arrival times or detector gate pulse arrival times? Either way it is then referred to in singular form. The maximum number of photon counts is undefined. It appears to be missing "a **first** maximum". Claim 13 is rejected for being dependent claims.

As per claim 14, the arrival time is undefined. An optimum arrival time is defined but it is unclear whether or not this is the antecedent basis. The optimal value is undefined and it is unclear what the intended antecedent basis is. A maximum number of photon counts are defined twice. It appears the two should be different.

As per claim 16, the detector gate scan lacks antecedent basis is claim 6. There is no detector gate scan present now because the amendment removed it.

Response to Arguments

Applicant's arguments, see pages 18-19, filed 1/26/09, with respect to the claims 1-14 have been fully considered and are persuasive. The rejection of claims 1-14 has been withdrawn. Newly added claims 15-20 being dependent on the previous claims are found allowable over the prior art as well.

Allowable Subject Matter

Claims 1-11, 13-18, and 20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Claims 3, 12, and 19 would be allowable if rewritten or amended to overcome the claim objections, set forth in this Office action.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL R. VAUGHAN whose telephone number is (571)270-7316. The examiner can normally be reached on Monday - Thursday, 7:30am - 5:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. R. V./

Examiner, Art Unit 2431

/Ayaz R. Sheikh/
Supervisory Patent Examiner, Art Unit 2431